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Employees' Perception of the Performance Management System in Mining Units: Evidence from Ballari and Vijayanagara Districts, Karnataka, India

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Article

Keywords: Employee Performance Management System, Employee Perception, Factor Analysis, Mining Industry

Posted Date: November 9th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11159376/v1

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Additional Declarations: No competing interests reported.

TITLE PAGE

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Short Title / Running Head:

"Employees' Perception of Performance Management System in Mining Units"

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Abstract

Performance Management System (PMS) is important for evaluating employee performance, providing feedback, developing skills, and supporting organisational performance, particularly in the mining industry. This study examines employees' perceptions of the prevailing PMS in mining units of Ballari and Vijayanagara districts. A pilot survey was conducted among 50 employees, comprising executive and non-executive employees, using a structured questionnaire and convenience sampling. Descriptive statistics, Cronbach's Alpha, Principal Axis Factoring, and One-Sample t-test were used for analysis. The reliability analysis showed high internal consistency, with Cronbach's Alpha of 0.981. Factor analysis identified three related dimensions of PMS, explaining 82.069% of the total variance. The One-Sample t-test showed that all six PMS dimensions had mean scores significantly above the neutral value of 3.00 ($p < 0.001$), with means ranging from 4.335 to 4.640. The findings indicate favourable employee perceptions of the prevailing PMS in the study area.

Key words: *Employee Performance Management System, Employee Perception, Factor Analysis, Mining Industry.*

Introduction

Performance Management System (PMS) plays an important role in improving employee performance and supporting the effective functioning of mining units. The mining industry involves physically demanding work, safety risks, technical responsibilities, and the need for continuous coordination among employees and management. In such a work environment, effective performance management can help employees understand their responsibilities, receive appropriate feedback, develop their skills, and contribute to organisational goals. Employees' perception of the existing PMS is particularly important because their experiences and opinions can indicate whether performance evaluation, training, recognition, rewards, feedback, and career development practices are functioning effectively. Ballari and Vijayanagara districts have a significant presence of mining activities, particularly in the iron ore sector, making them relevant areas for studying employee-related practices in mining units. Therefore, this study explores employees' perceptions of the prevailing Performance Management System in total working mining units of Ballari and

Vijayanagara districts. The study focuses on employees' views regarding different aspects of PMS and their role in supporting employee and organisational performance.

Review of literature

1. **Arslan et al. (2022)** examined the interaction between artificial intelligence-enabled robots and human workers in organisational teams. The study discussed key HRM challenges, including performance evaluation in hybrid teams, job insecurity, and trust between humans and AI systems. The authors suggested measures such as effective communication, employee training, and knowledge-sharing to support human-AI collaboration. The study highlighted the need for HR managers to reconsider traditional HRM practices and adopt flexible strategies to manage the changing relationship between technology and employees.
2. **Ramesh Krishnamurthy, Venkataiah C., and Vasanth Patil S.B. (2023)** examined noise pollution caused by iron ore mining and truck transportation in the northeastern block of Sandur Taluk, Ballari District. Using seasonal data from 2021–2022, sound-level measurements, statistical analysis, and GIS mapping, the study found that noise levels in areas such as Susheelanagar, Siddapura, and Rajapura frequently exceeded CPCB limits. The authors highlighted the importance of regulatory compliance, community participation, and sustainable mining practices to reduce noise pollution and its impact on local communities.
3. **Khatua, Dash, Mishra, and Mohanty (2024)** developed a benchmarking model for HRM practices in large mining industries using Interpretive Structural Modeling (ISM) and Fuzzy MICMAC analysis. Based on literature review and expert validation, the study identified 18 key HRM elements and examined their interrelationships and driving influence. The findings highlighted factors such as political influence, ESG risks, and decision quality as important elements shaping HRM practices. The study provides a structured framework for understanding HRM in the mining sector and suggests the need for further research on sustainable HR practices and Mining 4.0, particularly in developing economies.
4. **Fikru, Romero, Avila-Santamaria, Soria, and Logan (2024)** examined ESG risk ratings of mining companies using Sustainalytics data. The study found that

multinational mining companies, particularly those operating in OECD countries and employing larger workforces, generally showed stronger management of ESG-related risks. The authors highlighted the need for Ecuador to develop effective systems for assessing and differentiating mining companies based on their ESG performance. The study emphasized that systematic ESG assessment can support more responsible and sustainable development of the mining sector.

5. **Ivaz et al. (2025)** examined occupational health and safety perceptions and injury patterns in Serbian underground coal mines. The study compared workers' safety perceptions across age groups, qualifications, and production units with injury-related indicators using PROMETHEE II and entropy-based analysis. The findings showed differences between employees' perceived safety conditions and actual injury patterns. The authors highlighted the importance of management commitment to workplace safety and the need for training and safety interventions that consider employees' specific characteristics and working conditions.
6. **Subathra and Sethuraman (2025)** examined the influence of performance management practices on employee retention in public and private banks in Thiruvarur District. Using a mixed-methods approach, the study found that training, rewards, feedback, and effective performance appraisal contributed to employee retention. The findings also indicated differences between sectors, with private banks giving greater importance to performance-based incentives, while public banks offered greater employment stability. The study highlighted the need for suitable HR practices to improve employee retention.

Research Gap

Existing studies in the mining sector mainly focus on specific HR practices such as performance appraisal, employee engagement, safety, and training. However, limited research has examined the Performance Management System (PMS) as an integrated process from employees' perspectives. Further, empirical studies focusing on mining employees in Ballari and Vijayanagara districts are very limited. There is also insufficient evidence on how training, performance appraisal, employee development and recognition, work culture, engagement, and financial rewards are perceived by

employees. Hence, this study attempts to address these gaps by examining employees' perceptions of PMS and its role in employee performance.

Statement of the problem

Mining involves demanding working conditions, safety risks, technical responsibilities, and continuous performance requirements. An effective Performance Management System (PMS) is therefore important for evaluating employees, providing feedback, developing skills, and recognising performance. However, the effectiveness of PMS depends partly on how employees perceive and experience these practices. In Ballari and Vijayanagara districts, limited empirical evidence is available on employees' perceptions of performance appraisal, training, development and recognition, work culture, engagement, and financial rewards. The present study therefore examines these aspects to understand the prevailing PMS and its relationship with employee performance in selected mining units.

Objective of the study

1. To know the employees' performance evaluation parameters in the study area.
2. To assess employees' perception regarding the prevailing Performance Management System in the study area.

Hypothesis of the study

H_0: Employees' average perception regarding the prevailing Performance Management System does not significantly differ from the neutral value.

H_1: Employees' average perception regarding the prevailing Performance Management System significantly differs.

Research methodology

The present study is based on a pilot survey conducted among employees working in selected mining units of Ballari and Vijayanagara districts. A convenience sampling method was adopted to select respondents based on their availability and willingness to participate during the researcher's visits to the mining units. The respondents included both executive and non-executive employees. Primary data were collected from 50 employees using a structured questionnaire. The pilot study helped the researcher understand employees' perceptions of the prevailing Performance

Management System and identify the major aspects of performance management experienced by employees in the selected mining units.

Part-A

Demographical Profile of the Respondents

Part A of the questionnaire collects the basic demographic and employment-related information of the respondents. It provides a general profile of the employees participating in the study and helps understand the composition of the sample. The information includes relevant characteristics such as age, gender, educational qualification, work experience, designation, and other selected employment details. These characteristics provide useful background information for analysing employees' perceptions and, where required, comparing responses across different employee groups.

Table No.: 01: Classification of the respondents based on their demographical profile

Table 01 presents the demographic profile of the respondents based on age, gender, educational qualification, work experience, current position, nature of employment, and monthly income. It provides an overview of the respondents' background characteristics and their distribution across different demographic categories.

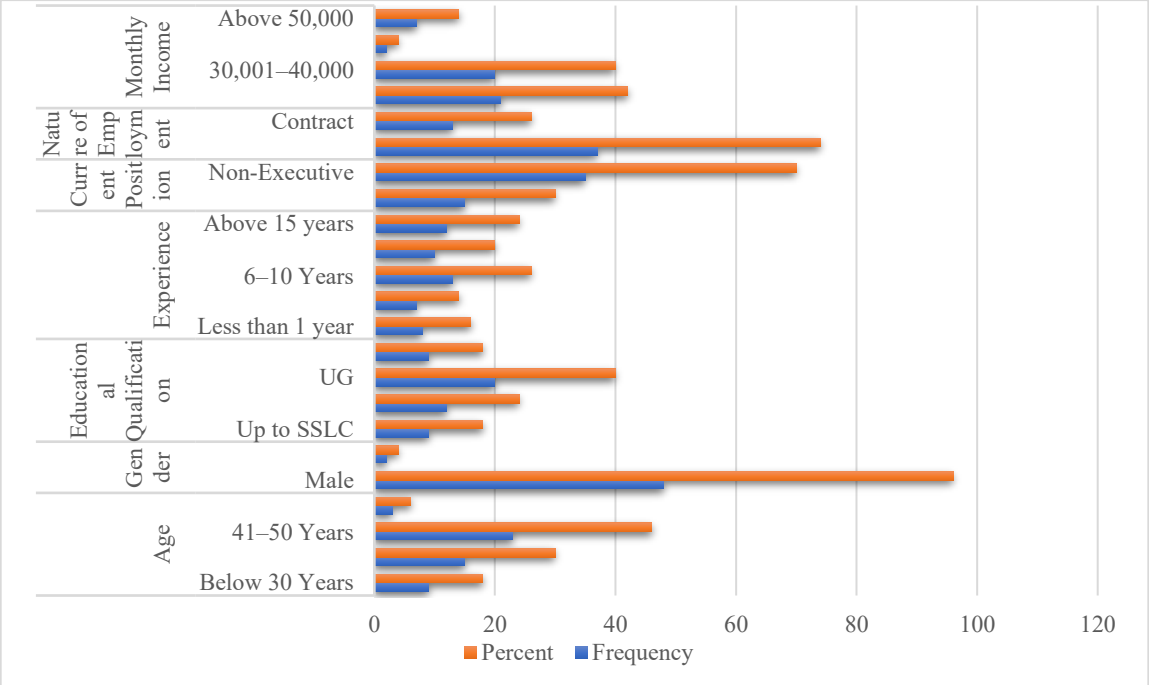
Based on Age			
	Frequency	**Percent**	**Cumulative Percent**
Below 30 Years	9	18.0	18.0
31 – 40 Years	15	30.0	48.0
41 – 50 Years	23	46.0	94.0
51 Years & Above	3	6.0	100.0
Total	**50**	**100.0**	
Based on Gender			
	Frequency	**Percent**	**Cumulative Percent**
Male	48	96.0	96.0
Female	2	4.0	100.0
Total	**50**	**100.0**	
Based on Educational			
	Frequency	**Percent**	**Cumulative Percent**
Up to SSLC	9	18.0	18.0
PUC/ITI/Diploma	12	24.0	42.0
UG	20	40.0	82.0
PG and Above	9	18.0	100.0
Total	**50**	**100.0**	
Based on Experience			
	Frequency	**Percent**	**Cumulative Percent**
Less than 1 year	8	16.0	16.0
1-5 Years	7	14.0	30.0

6-10 Years	13	26.0	56.0
11-15 Years	10	20.0	76.0
Above 15 years	12	24.0	100.0
Total	**50**	**100.0**	
Based on Current Position			
	Frequency	**Percent**	**Cumulative Percent**
Executive	15	30.0	30.0
Non- Executive	35	70.0	100.0
Total	**50**	**100.0**	
Based on Nature of Employment			
	Frequency	**Percent**	**Cumulative Percent**
Permanent	37	74.0	74.0
Contract	13	26.0	100.0
Total	**50**	**100.0**	
Based on Monthly Income			
	Frequency	**Percent**	**Cumulative Percent**
Up to 30,000	21	42.0	42.0
30,001 – 40,000	20	40.0	82.0
40,001- 50,000	2	4.0	86.0
Above 50,000	7	14.0	100.0
Total	**50**	**100.0**	

Source: *Primary Data*

Chart No.: 01: Classification of the respondents based on their demographical profile

Graph 01 present the demographic profile of the respondents, covering age, gender, educational qualification, work experience, current position, nature of employment, and monthly income, thereby showing the overall distribution of respondents across the selected demographic characteristics.



Source*: Researcher calculation based on the table 01*

The above table and chart 01 represents the demographic profile of the 50 respondents presents a workforce with varied age, educational, experience, occupational and income characteristics. The largest proportion of respondents belongs to the 41–50 years age group (46.0%), followed by 31–40 years (30.0%), indicating a relatively mature workforce. The respondents are predominantly male (96.0%), while females constitute only 4.0%. In terms of education, 40.0% have undergraduate qualifications, followed by 24.0% with PUC/ITI/Diploma qualifications, while 18.0% each have education up to SSLC and postgraduate or higher qualifications. Regarding experience, 26.0% have 6–10 years of service, followed by 24.0% with more than 15 years. Non-executive employees constitute 70.0% of the sample, while executives account for 30.0%. Further, 74.0% are permanent employees and 26.0% are contract workers. Regarding monthly income, 42.0% earn up to ₹30,000 and 40.0% earn ₹30,001–₹40,000. Overall, the sample reflects diverse employee characteristics.

Part-B

Perception of the Employees

Part B focuses on understanding employees' perceptions of the prevailing Performance Management System in the mining units. The statements cover important aspects such as performance evaluation, monitoring, feedback, performance planning, employee awareness, organisational performance, and the appeal process. Employees are asked to express their level of agreement with each statement using a five-point Likert scale ranging from Strongly Agree to Strongly Disagree. The responses help assess how employees experience and perceive the existing PMS.

Table No.: 02 : Frequence Distribution and Descriptive Statistics of the Respondents

The table 02 presents the frequency distribution and descriptive statistics of the respondents' responses, summarising the observed values through measures such as frequency, mean, and standard deviation to provide an overall understanding of the data.

Statements	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	SD	Skw.	Kurt.	Overall mean of the variable
Pay attention to Business Goals										
Helps the organization stay competitive during uncertain business conditions	32 (64)	14 (28)	1 (2)	3 (6)	0 (0)	**4.5**	**0.814**	**-1.889**	**3.3**	**4.0**

Our PMS increases employee accountability	27 (54)	18 (36)	3 (6)	2 (4)	0 (0)	**4.4**	**0.782**	**-1.385**	**1.8**	
The PMS effectively monitors employee performance	28 (56)	16 (32)	1 (2)	5 (10)	0 (0)	**4.34**	**0.939**	**-1.515**	**1.5**	
Encourages teamwork and improves group performance	29 (58)	15 (30)	3 (6)	2 (4)	1 (2)	**4.38**	**0.923**	**-1.819**	**3.4**	
Contributes to improving overall organizational performance	30 (60)	15 (30)	1 (2)	3 (6)	1 (2)	**4.4**	**0.948**	**-1.949**	**3.7**	
System and Operations										
Conversion of Organizational goals into individual performance targets	28 (56)	16 (32)	1 (2)	3 (6)	2 (4)	**4.3**	**1.055**	**-1.838**	**2.9**	**4.3**
Identification of employees' strengths and weaknesses	27 (54)	17 (34)	1 (2)	3 (6)	2 (4)	**4.28**	**1.051**	**-1.806**	**2.9**	
Employees are encouraged and supported to achieve challenging targets	32 (64)	13 (26)	0 (0)	4 (8)	1 (2)	**4.42**	**0.992**	**-1.993**	**3.4**	
The PMS helps employees track their work progress	28 (56)	16 (32)	2 (4)	3 (6)	1 (2)	**4.34**	**0.961**	**-1.753**	**2.9**	
Planning and Awareness										
Employees are clearly informed about their responsibilities	38 (76)	8 (16)	2 (4)	2 (4)	0 (0)	**4.64**	**0.749**	**-2.321**	**5.1**	**4.5**
I am familiar with the performance evaluation moderation process	34 (68)	12 (24)	1 (2)	2 (4)	1 (2)	**4.52**	**0.886**	**-2.354**	**5.8**	
Employees understand the performance cycle, including goal setting, monitoring, and review	37 (74)	10 (20)	2 (4)	0 (0)	1 (2)	**4.64**	**0.749**	**-2.927**	**10.8**	
Employees are regularly informed about updates in the PMS	39 (78)	9 (18)	3 (6)	1 (2)	1 (2)	**4.56**	**0.861**	**-2.392**	**6.1**	
Monitoring										
My performance is evaluated considering the work context and environment	29 (58)	15 (30)	2 (4)	4 (8)	0 (0)	**4.38**	**0.901**	**-1.543**	**1.7**	**4.3**
Performance evaluation is supported by proper performance records	28 (56)	16 (32)	5 (10)	0 (0)	1 (2)	**4.4**	**0.833**	**-1.765**	**4.3**	
The performance evaluation process is objective and free from subjectivity	27 (54)	14 (28)	7 (14)	1 (2)	1 (2)	**4.3**	**0.931**	**-1.437**	**2.1**	
I accept the performance ratings given to me	30 (60)	12 (24)	5 (10)	2 (4)	1 (2)	**4.36**	**0.964**	**-1.650**	**2.4**	
Feedback										
During target setting, mid-year reviews, and final reviews, my higher	31 (62)	11 (22)	4 (8)	4 (8)	0 (0)	**4.38**	**0.945**	**-1.451**	**1.0**	**4.4**

authority actively engages in discussions with me										
Helps me understand my strengths and areas for improvement	29 (58)	13 (26)	7 (14)	1 (2)	0 (0)	**4.4**	**0.808**	**-1.112**	**0.2**	
Provided an appropriate intervals during the performance cycle	28 (56)	15 (30)	3 (6)	2 (4)	2 (4)	**4.3**	**1.035**	**-1.794**	**3.0**	
My manager provides timely and constructive feedback	34 (68)	9 (18)	5 (10)	2 (4)	0 (0)	**4.5**	**0.839**	**-1.619**	**1.7**	
Encourage open communication between ourselves and managers	34 (68)	8 (16)	7 (14)	1 (2)	0 (0)	**4.5**	**0.814**	**-1.417**	**0.8**	
Seeking Appeals										
I have the opportunity to appeal against unfair performance ratings	38 (76)	7 (14)	3 (6)	1 (2)	1 (2)	**4.6**	**0.857**	**-2.552**	**6.8**	**4.6**
I feel comfortable raising concerns about my performance rating	39 (78)	6 (12)	2 (4)	3 (6)	0 (0)	**4.62**	**0.830**	**-2.293**	**4.4**	
The appeal process is transparent and fair	40 (80)	5 (10)	3 (6)	1 (2)	1 (2)	**4.64**	**0.851**	**-2.732**	**7.6**	
The process to appeal a performance rating is clear to me	40 (80)	5 (10)	5 (10)	0 (0)	0 (0)	**4.7**	**0.647**	**-1.980**	**2.5**	

Source: *Primary Data*

The above table 02 results show that employees have a favourable perception of the prevailing Performance Management System (PMS). A high proportion of respondents agreed or strongly agreed with most statements. For example, 76% strongly agreed and 16% agreed that employees are clearly informed about their responsibilities. Similarly, 74% strongly agreed and 20% agreed that employees understand the performance cycle, while 78% strongly agreed and 18% agreed that they receive regular PMS updates. The seeking appeals dimension recorded particularly strong responses, with 80% strongly agreeing and 10% agreeing that the appeal process is transparent and fair. Likewise, 80% strongly agreed and 10% agreed that the appeal procedure is clear. Overall, the high frequencies of positive responses and mean scores ranging from 4.28 to 4.70 indicate that employees generally perceive the PMS as clear, participative, and supportive of improved performance.

Table No.: 03: Reliability Statistics

Table 03 presents the reliability statistics of the study instrument, indicating the internal consistency of the questionnaire items using Cronbach's alpha coefficient and assessing the reliability of the measurement scale.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.981	.982	26

Source: *Researcher calculation based on the primary data*

The above table 03 reliability analysis shows a Cronbach's Alpha of 0.981 for the 26 statements, indicating very high internal consistency. The standardized alpha of 0.982 further confirms the reliability of the scale. Thus, the 26 statements are considered reliable for further analysis.

Table No.: 04: Cronbach's Alpha if Item Deleted

Table 04 presents Cronbach's alpha values when individual items are deleted, indicating their contribution to the overall reliability of the measurement scale.

Item-Total Statistics				
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
Helps the organization stay competitive during uncertain business conditions	111.30	342.296	.724	.981
Our PMS increases employee accountability	111.40	340.000	.837	.981
The PMS effectively monitors employee performance	111.46	333.029	.900	.980
Encourages teamwork and improves group performance	111.42	334.126	.883	.980
Contributes to improving overall organizational performance	111.40	334.653	.843	.981
Conversion of Organizational goals into individual performance targets	111.50	335.071	.741	.981
Identification of employees' strengths and weaknesses	111.52	328.949	.911	.980
Employees are encouraged and supported to achieve challenging targets	111.38	331.669	.889	.980
The PMS helps employees track their work progress	111.46	332.335	.900	.980
Employees are clearly informed about their responsibilities	111.16	341.362	.825	.981
I am familiar with the performance evaluation moderation process	111.28	339.879	.738	.981
Employees understand the performance cycle, including goal setting, monitoring, and review	111.16	343.851	.733	.981
Employees are regularly informed about updates in the PMS	111.24	340.349	.746	.981
My performance is evaluated considering the work context and environment	111.42	336.044	.845	.981
Performance evaluation is supported by proper performance records	111.40	339.837	.789	.981

The performance evaluation process is objective and free from subjectivity	111.50	336.949	.788	.981
I accept the performance ratings given to me	111.44	336.292	.779	.981
During target setting, mid-year reviews, and final reviews, my higher authority actively engages in discussions with me	111.42	334.453	.851	.980
Helps me understand my strengths and areas for improvement	111.40	339.143	.839	.981
Provided an appropriate intervals during the performance cycle	111.50	330.949	.870	.980
My manager provides timely and constructive feedback	111.30	339.071	.809	.981
Encourage open communication between ourselves and managers	111.30	338.704	.848	.981
I have the opportunity to appeal against unfair performance ratings	111.20	338.367	.814	.981
I feel comfortable raising concerns about my performance rating	111.18	341.947	.721	.981
The appeal process is transparent and fair	111.16	340.015	.765	.981
The process to appeal a performance rating is clear to me	111.10	345.806	.771	.981

Source: *Primary Data*

The item-total statistics indicate that all 26 statements have positive and satisfactory corrected item-total correlations, ranging from 0.721 to 0.911. These values are well above the commonly accepted minimum level of 0.30, showing that each statement is consistently related to the overall scale. The highest correlation is observed for the statement on identifying employees' strengths and weaknesses (0.911), while the lowest is for employees' understanding of the performance cycle (0.733). Further, the Cronbach's Alpha if Item Deleted ranges from 0.980 to 0.981, compared with the overall alpha of 0.981. This indicates that removing any individual statement would not substantially improve the overall reliability. Therefore, all 26 statements demonstrate good internal consistency and can be retained for further analysis.

Table No.: 05: Factor Analysis

Table 05 presents the factor analysis results of the Performance Management System statements, identifying the underlying factors based on the responses of the respondents.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.802
Bartlett's Test of Sphericity	Approx. Chi-Square	2150.744
	df	325
	Sig.	.000

Source: *Researcher calculation based on the primary data*

The KMO value of 0.802 indicates that the sample is adequate for factor analysis. Bartlett's Test of Sphericity is significant ($\chi^2 = 2150.744$, df = 325, $p < 0.001$), indicating that the variables are significantly correlated with each other. Therefore, the correlation matrix is suitable for factor analysis. Overall, the results confirm that the data have adequate sampling adequacy and sufficient interrelationships among variables for extracting meaningful underlying factors.

Table No.: 06: Communalities of Performance Management System Statements

Table 06 presents the communalities of the Performance Management System statements, showing the proportion of variance in each statement explained by the extracted factors.

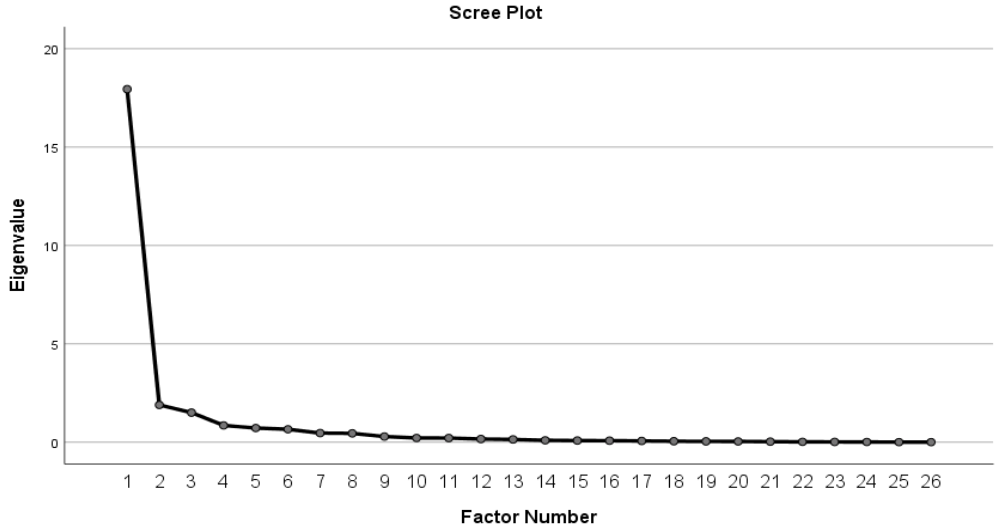
Communalities	
	Initial
Helps the organization stay competitive during uncertain business conditions	.948
Our PMS increases employee accountability	.976
The PMS effectively monitors employee performance	.975
Encourages teamwork and improves group performance	.964
Contributes to improving overall organizational performance	.969
Conversion of Organizational goals into individual performance targets	.711
Identification of employees' strengths and weaknesses	.971
Employees are encouraged and supported to achieve challenging targets	.982
The PMS helps employees track their work progress	.974
Employees are clearly informed about their responsibilities	.979
I am familiar with the performance evaluation moderation process	.963
Employees understand the performance cycle, including goal setting, monitoring, and review	.973
Employees are regularly informed about updates in the PMS	.981
My performance is evaluated considering the work context and environment	.963
Performance evaluation is supported by proper performance records	.979
The performance evaluation process is objective and free from subjectivity	.938
I accept the performance ratings given to me	.950
During target setting, mid-year reviews, and final reviews, my higher authority actively engages in discussions with me	.979
Helps me understand my strengths and areas for improvement	.986
Provided an appropriate intervals during the performance cycle	.975
My manager provides timely and constructive feedback	.990
Encourage open communication between ourselves and managers	.989
I have the opportunity to appeal against unfair performance ratings	.970
I feel comfortable raising concerns about my performance rating	.934
The appeal process is transparent and fair	.975
The process to appeal a performance rating is clear to me	.959
Extraction Method: Principal Axis Factoring.	

Source: *Researcher calculation based on the primary data*

The communalities obtained through Principal Axis Factoring indicate how much of the variance in each statement is explained by the extracted factors. The values range from 0.711 to 0.990, showing that all statements have adequate representation in the factor structure. Most of the statements record communalities above 0.90, indicating that they are strongly explained by the underlying factors. The lowest value, 0.711, relates to the conversion of organisational goals into individual performance targets, which still exceeds the commonly accepted minimum level of 0.50. The highest value of 0.990 is observed for the statement relating to timely and constructive feedback from managers. Overall, the results demonstrate that the variables are well represented by the extracted factors, and none of the statements needs to be removed based on their communalities.

Chart No.:02: Scree Plot

Graph 02 presents the scree plot of the factor analysis, illustrating the eigenvalues of the extracted factors and indicating the number of factors retained.



Source: *Researcher calculation based on the primary data*

The scree plot shows the eigenvalues obtained for the 26 variables included in the factor analysis. Factor 1 has the highest eigenvalue, approximately 18, followed by a noticeable decrease in Factors 2 and 3. From Factor 4 onwards, the decline becomes gradual and the curve starts to level off. The elbow of the plot is observed around the third factor, suggesting that the first three factors account for a major portion of the variance, while the remaining factors make a relatively smaller contribution. Therefore, the scree test supports the retention of three factors for further analysis.

Table No.: 07: Total Variance Explained

Table 07 presents the total variance explained by the extracted factors, including their eigenvalues, percentage of variance, and cumulative percentage.

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	17.943	69.012	69.012	15.515
2	1.893	7.280	76.292	12.870
3	1.502	5.777	82.069	13.263
4	.852	3.276	85.345	
5	.718	2.761	88.107	
6	.656	2.522	90.628	
7	.462	1.775	92.403	
8	.448	1.724	94.127	
9	.286	1.101	95.228	
10	.215	.828	96.056	
11	.209	.804	96.861	
12	.161	.620	97.481	
13	.139	.533	98.014	
14	.096	.369	98.383	
15	.083	.321	98.703	
16	.076	.292	98.995	
17	.062	.239	99.234	
18	.049	.189	99.423	
19	.040	.154	99.577	
20	.036	.138	99.714	
21	.026	.102	99.816	
22	.019	.072	99.888	
23	.012	.047	99.935	
24	.010	.038	99.973	
25	.004	.016	99.989	
26	.003	.011	100.000	
Extraction Method: Principal Axis Factoring.				
a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.				

Source: *Researcher calculation based on the primary data*

The Total Variance Explained table shows the factors extracted using the Principal Axis Factoring method. Based on the Kaiser criterion, three factors have eigenvalues greater than 1 and are therefore retained for interpretation. The first factor has an eigenvalue of 17.943 and explains 69.012% of the total variance. The second factor has an eigenvalue of 1.893, accounting for 7.280% of the variance, while the third factor has an eigenvalue of 1.502, explaining 5.777%. Together, these three factors explain 82.069% of the total variance, indicating that they capture a substantial proportion of the information contained in the original variables. The remaining factors have eigenvalues below 1 and are not retained. Overall, the results support a three-factor structure for the Performance Management System variables.

Table No.: 08: Pattern Matrix of Performance Management System Statements

Table 08 presents the pattern matrix of the Performance Management System statements, showing the factor loadings of individual statements on the extracted factors.

Sl. No.	Statement	Factor 1	Factor 2	Factor 3
1	Helps the organization stay competitive	0.899		
2	PMS increases employee accountability	0.878		
3	PMS effectively monitors employee performance	0.624		
4	Encourages teamwork and improves group performance		0.470	
5	Improves overall organizational performance		0.714	
7	Identification of employees' strengths and weaknesses	0.481		
8	Employees supported to achieve challenging targets	0.467		
9	PMS helps employees track work progress		0.461	
10	Employees clearly informed about responsibilities			0.775
11	Familiar with performance evaluation moderation		0.729	
12	Understand the performance cycle			0.972
13	Informed about PMS updates			0.906
14	Performance evaluated considering work context	0.564		
15	Evaluation supported by proper records	0.725		
16	Evaluation process is objective	0.860		
17	Accept performance ratings	0.884		
18	Higher authority engages in performance discussions	0.871		
19	Understand strengths and areas for improvement	0.750		
20	Appropriate intervals during performance cycle	0.638		
21	Manager provides timely constructive feedback	0.739		
22	Open communication between employees and managers	0.580		
23	Opportunity to appeal unfair ratings		0.775	
24	Comfortable raising rating concerns		0.800	
25	Appeal process is transparent and fair		0.941	
26	Appeal process is clear			0.463
	Factors	**Performance Evaluation, Monitoring and Feedback**	**Organizational Performance and Appeals**	**Performance Planning and Awareness**

Source: *Researcher calculation based on the primary data*

The rotated factor loading results indicate that the 26 statements are grouped into three underlying factors based on their strongest loadings. Factor 1, Performance Evaluation, Monitoring and Feedback, includes statements related to performance monitoring, evaluation, feedback, accountability, and employee development. Factor 2, Organizational Performance and Appeals, represents statements concerning organisational performance, employee concerns, and the fairness and transparency of the appeal process. Factor 3, Performance Planning and Awareness, covers employees' understanding of performance goals, responsibilities, performance cycles, and PMS-related information. Overall, the factor structure provides a clear representation of the major dimensions of the Performance Management System.

Table No.: 09: Factor Correlation Matrix

Table 09 presents the factor correlation matrix, showing the relationships among the extracted factors of the Performance Management System.

Factor	1	2	3
1	1.000	.649	.685
2	.649	1.000	.619
3	.685	.619	1.000
Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.			

Source: *Researcher calculation based on the primary data*

The factor correlation matrix shows that the three extracted factors are positively related to one another. Factor 1 has a correlation of 0.649 with Factor 2 and 0.685 with Factor 3, while Factor 2 has a correlation of 0.619 with Factor 3. These moderate positive correlations indicate that the factors are related but represent distinct dimensions of the Performance Management System. The results are consistent with the use of Promax rotation, which allows the extracted factors to correlate. Overall, the findings support the presence of three interconnected dimensions of PMS: Performance Evaluation, Monitoring and Feedback; Organizational Performance and Appeals; and Performance Planning and Awareness.

Hypothesis Testing

H_0: Employees mean perception regarding the prevailing Performance Management System does not significantly differ from the neutral value.

Table No.: 10: One-Sample Descriptive Statistics of the Six Dimensions of PMS

Table 10 presents the one-sample descriptive statistics of the six Performance Management System dimensions, including their mean, standard deviation, and sample size.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Pay attention to Business Goals	50	4.4040	.80558	.11393
MEAN of System and Operations	50	4.3350	.94303	.13337
Mean of Planning and Awareness	50	4.5900	.74703	.10565
Mean of Monitoring	50	4.3600	.83324	.11784
Mean of Feedback	50	4.4160	.83382	.11792
Mean of Seeking Appeals	50	4.6400	.71991	.10181

Source: *Researcher calculation based on the primary data*

Table No. 10 presents the descriptive statistics of the six dimensions of the Performance Management System based on 50 respondents. The mean scores range from 4.335 to 4.640, indicating generally positive perceptions of the PMS. Seeking Appeals records the highest mean score (4.640), followed by Planning and Awareness (4.590). System and Operations has the lowest mean score (4.335). The standard deviation ranges from 0.720 to 0.943, showing moderate variation in respondents' perceptions. Overall, the results indicate that respondents reported favourable views across all six PMS dimensions.

Table No.: 11: One-Sample t-Test of Employees' PMS Perception

Table 11 presents the one-sample t-test results for employees' perception of the Performance Management System, comparing the dimension means with the neutral test value.

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Pay attention to Business Goals	12.324	49	.000	1.40400	1.1751	1.6329
MEAN of System and Operations	10.010	49	.000	1.33500	1.0670	1.6030
Mean of Planning and Awareness	15.050	49	.000	1.59000	1.3777	1.8023
Mean of Monitoring	11.541	49	.000	1.36000	1.1232	1.5968
Mean of Feedback	12.008	49	.000	1.41600	1.1790	1.6530
Mean of Seeking Appeals	16.108	49	.000	1.64000	1.4354	1.8446

Source: *Researcher calculation based on the primary data*

Table No. 11 presents the results of the One-Sample t-test conducted against the neutral value of 3.00. The t-values range from 10.010 to 16.108, with 49 degrees of freedom, and all significance values are $p < 0.001$. Therefore, the mean scores of all six PMS dimensions differ significantly from the neutral value. Since all observed means are above 3.00, the results indicate significantly positive perceptions among employees. The confidence intervals also remain above zero, further supporting the statistical significance of the observed differences. Hence, the null hypothesis (H_0) is rejected, indicating that employees' mean perception regarding the prevailing Performance Management System significantly differs from the neutral value.

Conclusion

The study examined employees' perceptions of the prevailing Performance Management System in mining units of Ballari and Vijayanagara districts using pilot data from 50 respondents. The findings show a favourable perception of PMS across its major dimensions, including planning and awareness, monitoring, feedback, system and operations, business goals, and seeking appeals. The reliability analysis confirmed strong internal consistency of the 26 statements, while factor analysis identified three related dimensions of PMS. The One-Sample t-test further confirmed that all six dimensions differed significantly from the neutral value. Overall, the findings indicate that employees perceive the prevailing PMS positively.

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Variables used for the study are in the questionnaire also

1. Age
2. Gender
3. Educational Qualification
4. Experience in current Organisation
5. Current Position
6. Nature of Employment
7. Monthly Income
8. Pay attention to Business Goals
9. System and Operations
10. Planning and Awareness
11. Monitoring
12. Feedback
13. Seeking Appeals

Declaration of Data Availability

The anonymised data underlying the findings of this study, together with the survey questionnaire, variable coding information, and relevant SPSS statistical analysis outputs, are provided as supplementary materials. The dataset contains no personally identifiable information and is made available to support the verification and reproducibility of the analyses reported in the manuscript.

Ethics Approval

The research proposal was reviewed and approved by the Institutional Review Board / Doctoral Committee of Vijayanagara Sri Krishnadevaraya University, Ballari.

The research was conducted in accordance with the research ethics principles prescribed in the VSKUB Policy for Promotion of Research and Code of Ethics..[1]

Data Coding and Variable Information

The variables, questionnaire items, response categories, and coding scheme used in the study are clearly provided in the survey questionnaire submitted as supplementary material. The questionnaire specifies the measurement scale and response options for all study variables. Therefore, a separate data-coding document has not been provided,

[1] https://vskub.ac.in/wp-content/uploads/2022/09/Policy-for-promtion-of-research-code-of-ethics.pdf

as the required variable and coding information can be directly identified from the questionnaire.

Request for confidentiality of questionnaire and data set

I am currently pursuing my Ph.D. as a Research Scholar at Vijayanagara Sri Krishnadevaraya University, Ballari, Karnataka. The questionnaire and dataset submitted with this manuscript form part of my ongoing doctoral research. I kindly request the editorial office and reviewers to treat these materials as confidential research materials and not share, reproduce, distribute, or make them publicly available to any third party. The questionnaire and dataset are being provided solely for the purpose of evaluating and verifying the present manuscript.

Compliance with guidelines/regulations

The study was conducted in accordance with the applicable institutional requirements and ethical principles for research involving human participants. Participation was voluntary, confidentiality was maintained, and the data were collected solely for academic research purposes.

Informed Consent

Informed consent was obtained from all participants before their participation in the study. Participants were informed about the academic purpose of the study, the voluntary nature of their participation, and the confidentiality of the information provided.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- YSHQUESTIONNAIRE.pdf
- RawandCodedDataofRespondents.xlsx
- FactorAnalysisOutput.spv